

Table S4. Notes from interviews with key experts about frameworks and indicators for assessment of climate change-related health adaptation effectiveness.

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1	Impacts of climate change on human health and with a little interest in attribution	<p>Broadly aware of indicators/frameworks but haven't used them:                      Notre Dame Global Adaptation Initiative" (ND-GAIN) Index: Assesses vulnerability to climate change and readiness to adapt.</p> <p>UNFCCC (United Nations Framework Convention on Climate Change): Provides broad frameworks and guidelines for climate adaptation.</p> <p>National Adaptation Plans (NAPs): Country-specific plans to manage and adapt to climate change impacts.</p> <p>IPCC (Intergovernmental Panel on Climate Change) Frameworks: Includes guidelines and recommendations on climate adaptation and impacts.</p> <p>UNDP (United Nations Development Programme) and GEF (Global Environment Facility) Adaptation Policy Framework: Focuses on climate adaptation policies but may not explicitly include health.</p>	Hasn't used indicators to assess the effectiveness of adaptation interventions. Most of work has focused on mitigation but starting to consider how to integrate metrics for both adaptation and mitigation.	<p>Discussed the evaluation of disease early warning systems and their integration into broader health systems. The expert suggests complementing technical evaluations with a health systems approach that assesses how early warnings are incorporated into health system policies.</p> <p>Studies, such as those by Rachel Lowe, often focus on the technical aspects of disease early warning systems. These studies evaluate metrics like detection capability, lead times, and the accuracy of the system (true positives, false positives). There are limitations in focusing solely on technical performance of these systems. There is a need to consider how these systems are integrated into existing health systems to ensure they have the desired impact. For early warning systems to be effective, they need to be integrated into broader health system policies and practices. This integration is crucial for the systems to function properly and to have a tangible impact on public health.</p> <p>Hospitals are important but have limitations. They generally do not know where vulnerable people in the community live, so their role is</p>

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				<p>mostly reactive rather than preventive. Hospitals might contribute by issuing warnings to outpatients with climate-sensitive conditions or those recently admitted with related issues.</p> <p>This broader approach would help ensure that early warning systems are effectively utilized to prevent and manage outbreaks within the community.</p>
2	<p>Climate and health projects focus on adaptation, specifically health adaptation, by examining health systems' capacity to manage climate hazards and risks. These projects emphasize practical implementation, working with governments to understand and improve policies, plans, and interventions, particularly in low-resource settings.</p>	<p><b>Lancet Countdown:</b> A global framework that tracks the impact of climate change on health and monitors progress in health and climate policies.</p> <p><b>World Bank Health Adaptive Capacity Framework:</b> Used to assess the capacity of health systems to adapt to climate change.</p> <p><b>WHO Operational Framework:</b> Focuses on guiding the implementation and evaluation of health adaptation interventions and strategies related to climate change.</p> <p>These frameworks often overlap or connect in various ways.</p>	<p>Mainly focuses on identifying and discussing which indicators should be used, rather than applying these indicators in practical interventions. He is more engaged in developing frameworks and theoretical approaches rather than conducting practical assessments with specific indicators.</p> <p>Hasn't published or worked on specific interventions where he directly applied indicators, he has experience using them in practical, non-academic settings.</p> <p>His current academic work revolves around questioning and defining what indicators should be used rather than applying them in practical interventions. This</p>	<p><b>Strengths:</b> Frameworks like those from WHO and Lancet provide structured guidance and outline important components for assessing health adaptation and climate change impacts.</p> <p><b>Weaknesses:</b> These frameworks are often too broad and not tailored to specific contexts or local conditions, making them less applicable at national or sub-national levels. Implementing these frameworks can be time-consuming. The process of collecting data and completing surveys adds to the workload of already strained health staff, who may be juggling multiple responsibilities. At the national or sub-national level, global frameworks may not be directly relevant if the local stakeholders are not actively engaged with them. This can lead to them being seen</p>

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			involves exploring and developing frameworks rather than implementing and assessing interventions directly.	<p>as just another survey rather than a useful tool.</p> <p>Frameworks can produce complex data that is difficult to summarize and interpret in a way that directly informs policy and planning. Extracting actionable insights from these frameworks can be challenging.</p> <p>Many frameworks do not adequately address climate-specific issues or the appropriate time scales for monitoring. For example, annual tracking may not align well with the long-term nature of climate change impacts.</p> <p>Frameworks often require extensive data collection, which can be challenging due to data limitations. While quantitative data is crucial, qualitative data can provide valuable insights but is often difficult to manage and analyze due to time constraints.</p> <p>Balancing the complexity of frameworks and indicators with their practical application is difficult. Frameworks can be either too simplistic or too complex, making it hard to calibrate them effectively for real-world use.</p> <p>In summary, while frameworks provide important guidelines and structure, they face significant challenges in terms of context-specific applicability, practicality, and data management, which can hinder their effectiveness in real-world settings.</p>
3	In the health application space for	EPIDEMIA Program:	Worked for the Atlas program, a USAID-funded initiative focused on	Strengths:

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	<p>about 20 years. Focuses on designing programs that address adaptation opportunities and benefits, particularly in safeguarding development investments. Most work has been in Africa, but recently expanded to Central and South America. Strong interest in using climate and weather information services to support adaptation strategies and has been involved with the World Climate Research Program and the IPCC Data Task Force.</p>	<ul style="list-style-type: none"> <li>• University of South Dakota, now the University of Oklahoma, the EPIDEMIA project created an early warning and detection tool for malaria.</li> <li>• The project was initially funded by the NHS and later supported by the President’s Malaria Initiative.</li> <li>• Implemented in the Mahara region of Ethiopia, utilizing open-source data and Earth engine data for malaria incidence forecasting.</li> <li>• Developed a roadmap model for scaling the tool to other regions.</li> </ul> <p>Tracking adaptation and measuring development (TAMD): conceptual framework to monitor and evaluate climate change adaptation.</p>	<p>climate change adaptation and thought leadership. The program received funding from African colleagues to explore the health sector's vulnerability to climate change. Health Sector: Identified the health sector as one of the most vulnerable to climate change in the US. Noted the minimal funding (less than 1% of global adaptation funds) allocated to health programs.</p> <p>- Conducted extensive analysis over five years to understand the links between climate and health. Studied impacts on maternal and child health outcomes in secondary cities in Bangladesh. Explored the tenuous link between climate and plague. Focused on vector-borne illnesses, conducting 33 major studies.</p> <p>- Analysed historical data on malaria and all-cause disease in relation to climate information. Discovered patterns involving rainfall and temperature affecting diarrheal diseases.</p>	<p>The Channel Framework allows for a broad assessment across various dimensions of adaptation, considering both risk and adaptive capacity over time. This holistic approach is essential for capturing the multifaceted nature of adaptation efforts.</p> <p>Recognizes the importance of the temporal aspect of risk and adaptation, which is crucial for understanding long-term impacts and effectiveness. This helps in planning and monitoring adaptive measures over extended periods.</p> <p>Emphasizes the concept of built resilience, considering various factors such as basic health services, infrastructure, and environmental safeguards. This approach aligns well with sustainable development goals and ensures a comprehensive understanding of resilience.</p> <p>Encourages engagement with stakeholders, including donors and development missions, to refine and improve the indicators. This collaborative approach can enhance the relevance and acceptance of the framework.</p> <p>Weaknesses: - Measuring adaptation success is inherently challenging due to the complex and long-term</p>

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			<ul style="list-style-type: none"> <li>- Used climate models to forecast changes in vector environments across Sub-Saharan Africa under various scenarios.</li> <li>-Began exploring the relationship between heat and health outcomes, with initial work started about eight years ago.</li> </ul>	<p>nature of climate risks versus the adaptive capacity being built. This complexity can lead to difficulties in defining and quantifying success.</p> <ul style="list-style-type: none"> <li>- Existing indicators, such as the number of people with built resilience, may be seen as poor substitutes for effectiveness. They may not capture the full extent of adaptive capacity or the nuances of different adaptation efforts.</li> <li>- Summing up diverse adaptation efforts (e.g., health services, infrastructure, environmental safeguards) into a single metric is problematic. This can lead to oversimplification and loss of important context-specific details.</li> <li>- The political environment and practical constraints, such as funding limitations, can hinder the implementation and effectiveness of the framework. Political pushback and differing priorities among stakeholders can complicate consensus-building and collaborative efforts.</li> </ul>
4	Working on climate change health adaptation for more than 25 years and have had the privilege of working on essentially all issues around	In the health sector, there's a tendency to think all indicators need to be developed from scratch. However, many relevant indicators, such as those for <b>demographic change and urbanization</b> , already exist and can be sourced from other fields. Therefore, <b>leverage existing data</b> and focus efforts on	An example given to illustrate gaps was the Seven Country project, one of the countries involved was Bhutan, a least-developed country. As a result of the project, the Bhutanese Ministry of Health hired someone to focus on climate change and health.	One of my main concerns is the lack of differentiation between weather and climate change. For example, the UK has a very good heat wave early warning system, but it typically operates from mid-May to mid-September. One year, a heat wave occurred at the end of September and beginning of

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	<p>adaptation for all health outcomes. lot of the work I've done is with ministries of health.</p>	<p>categorizing and identifying these sources rather than creating new indicators.</p> <p>WHO document - Carlos Corvalan</p> <p>To effectively assist or monitor the implementation of a climate change and health adaptation intervention, it is valuable to separate considerations into <b>process and outcome indicators</b>. This distinction is essential because the current state of the <b>field lacks sufficient long-term implementations</b> to evaluate the effectiveness of adaptations.</p> <p>Most of the existing work has been either <b>premature or focused on the wrong questions</b>. Therefore, focusing on the process provides more potential for meaningful evaluation. Implementation science, as discussed by <b>Chris Boyer</b>, can play a significant role in this area. There are several papers that align implementation science with adaptation, highlighting the importance of readiness—something Chris has been doing an excellent job on.</p> <p>Setting up indicators for the process of implementation is crucial. However, assessing the effectiveness of adaptation interventions is challenging due to the typical funding durations of five years,</p>	<p>There has not been much follow-up on these international projects. For all projects funded under the UNFCCC, there are midterm and terminal evaluations. These evaluations address a range of questions, from financial aspects to implementation, but they don't often focus on the effectiveness of the project. For instance, if a project aimed to train 5,000 healthcare workers, the evaluation would check if that number was trained. However, it wouldn't assess the long-term benefits of the adaptation efforts.</p> <p>Another challenge is finding ways to fund evaluations a few years after the projects have ended. Bhutan is very active in climate change initiatives and based on my interactions with health professionals and people in the meteorological services there, I suspect they have continued to make progress. However, it's harder to get information from other countries.</p>	<p>October, which highlighted the need to adapt these systems for changing climate patterns. Often, cities or health ministries believe they are adapted because they have a heat wave early warning system. However, these systems are usually designed based on historical weather patterns, not future climate projections. This is a common issue across all early warning systems. They prepare for past events rather than future scenarios.</p> <p>Peter Berry and I, along with other colleagues, wrote a paper on stress testing to encourage thinking about future climate conditions. Stress testing can help identify urgent and immediate changes needed to improve preparedness. This approach is used extensively by the military through war games and by banks following the financial crash.</p> <p>I believe stress testing should be integrated into vulnerability and adaptation assessments to develop meaningful indicators. The results from these tests can inform what changes are necessary to better prepare for future climate events.</p> <p>Regarding health outcomes measured with indicators in climate change assessments, about 75% of the research focuses on heat. However, the evaluation of heat wave early warning systems has mixed results, often due to fundamental flaws in the studies, such as not considering the duration of system</p>

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		<p>which is not enough time to see significant results.</p> <p>A relevant example is the 7-country project funded by the Special Climate Change Fund through <b>WHO and UNDP</b>, which concluded around 5-7 years ago. This project included a set of program indicators and an interesting initial survey on people's perception of vulnerability to health outcomes in the context of climate change. Initially, perceptions of vulnerability were moderate, but as awareness of climate change grew, so did the perception of vulnerability.</p> <p>This historical example underscores that perceptions of vulnerability are not unidirectional and can shift significantly due to various factors, such as increasing awareness and the occurrence of extreme events. Thus, when designing a framework for monitoring and evaluating health outcomes, it's crucial to consider these dynamic factors and understand that perceptions and realities of vulnerability can change over time.</p>		<p>implementation. It's crucial to have independent evaluations to ensure accurate assessments of these systems' effectiveness. For further information on stress testing, Peter Berry from Health Canada, who has been working on health adaptation for 25 years, is an excellent resource.</p>
5	My research and expertise in relation to climate change and adaptation focus on food systems, particularly in Sub-	Key indicators to measure include micronutrient status, weight changes, and high blood pressure. Short to intermediate-term indicators such as micronutrient deficiencies, particularly in vulnerable groups like pregnant women, weight loss,	Our work focuses on studying neglected and underutilized crops that thrive in climate-affected areas, such as those with drought and salinity. These crops have strong nutritional profiles that help	Attribution in climate change and health adaptation interventions is incredibly difficult. It varies depending on the specific health outcomes being assessed. Beyond classic nutritional outcomes like micronutrient deficiencies, weight changes, and high blood

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	<p>Saharan Africa. We conduct significant research on the resilience of food systems, especially in West and Southern Africa. This involves promoting the production and consumption of more resilient food sources.</p>	<p>and gain, and blood, urine, or stool sample results are valuable. In the long term, stunting and overall nutritional health are crucial, though attribution becomes more complex due to the many variables affecting people's lives over time. Additionally, tracking days missed at work and various mental health outcomes can provide insights into the broader impact of these interventions.</p> <p>The <b>Lancet Countdown</b> is one of the frameworks that includes some aspects of this. I'm not sure if there is a comprehensive climate and health framework, but there are several that cover parts of it. The Sendai Framework is another important one. While it doesn't focus solely on health, it addresses climate change and disaster impacts, highlighting how different events, such as increased temperatures and extreme weather, affect health.</p> <p>The <b>Sendai Framework</b> emphasizes the context and cascading risks of climate change, illustrating how similar events can have different health impacts based on a country's resilience and adaptive capacity. This approach shows that climate change impacts can't be seen in isolation and that a comprehensive understanding of cascading</p>	<p>address micronutrient deficiencies. While our research in the Global South emphasizes climate change adaptation, we also engage in climate change mitigation in the Global North by promoting sustainable diets, reducing meat consumption, and lowering food miles. We measure indicators like iron and zinc deficiencies, BMI, weight changes, and blood pressure in our research populations. Recently, we've begun exploring the qualitative impacts of mental health, showing changes over short periods.</p> <p>A successful adaptation initiative was the reintroduction of these resilient traditional crops, which stabilize food production and improve health outcomes by reducing micronutrient deficiencies and increasing dietary fibre intake. Efforts to make these crops more appealing, such as integrating them into popular dishes and creating healthy snacks, helped ensure market demand and wider consumption. This initiative highlights the importance of</p>	<p>pressure, we also measure mental health, which adds complexity. Determining whether an adaptation directly reduces mental health burdens or if other factors play a role is challenging. There is a significant gap in evidence, as many projects focus on immediate impacts like yields rather than broader health outcomes.</p> <p>The <b>Lancet Countdown</b> is very detailed and pragmatic, with systematic evidence synthesis methods that minimize bias. It uses specific health indicators, making it easier for policymakers to understand health impacts and progress toward the SDGs.</p> <p>The <b>Sendai Framework</b>, on the other hand, is less specific in its outcomes and measurements but excels in contextualizing climate change impacts. It highlights the importance of considering cascading risks and how the same climate event can have varying impacts based on a country's resilience. This broader perspective is crucial for understanding and modeling health impacts, though it can be complex to implement in health models. The Sendai Framework doesn't focus specifically on health outcomes. It is more concerned with food systems and food availability, which indirectly affects health. However, it does not provide specific health outcome indicators.</p>

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		risks should be integrated into health models.	working with ecosystems and leveraging traditional knowledge to enhance resilience and public health.	
6	Focus on the human dimensions of climate change. Research interests include climate change innovation, climate change and health, and household energy access. A key area I am particularly interested in is the adoption and use of cleaner cooking systems, or more broadly, cleaner energy systems. I study the causes and consequences of household energy decisions in the context of climate change, health, and well-being. Additionally, I am interested in examining the	<p>Finding an overarching framework for climate change and health can be challenging due to the complexity of the field. However, I believe two main approaches could be crucial in assessing health outcomes from climate change adaptation interventions.</p> <p>First, <b>implementation science</b> provides valuable frameworks. For instance, the <b>RE-AIM framework</b> (Reach, Effectiveness, Adoption, Implementation, Maintenance) is particularly useful. It helps us understand how evidence-based interventions are adopted and maintained in routine practice. Another useful framework is the <b>EPI S</b> (Epidemiology and Implementation Science) framework. Lastly, the <b>Implementation Outcomes Framework</b> is also relevant as it evaluates how well interventions are integrated and their impact.</p> <p>Second, <b>systems science</b> is important due to the multidisciplinary nature of climate change and health. Systems science helps us understand how different subsystems—such as economic, social, and behavioural systems—interact. This approach allows for</p>	<p>I have been involved in adaptation and climate change initiatives that have been successfully implemented. One notable example is related to addressing household air pollution. In my recent studies, I evaluated various policies and programs focused on climate change and health. A significant finding was the role of social networks in fostering the adoption and sustained use of cleaner cooking technologies. Specifically, when households are well-connected with others who have already adopted cleaner cooking technologies, they are more likely to follow suit. This highlights the power of social capital and networks in promoting and sustaining climate adaptation interventions.</p> <p>For instance, leveraging opinion leaders and social networks has proven effective in encouraging communities to adopt climate</p>	<p>In terms of strengths, the RE-AIM framework is comprehensive. It covers multiple dimensions: Reach, Effectiveness, Adoption, Implementation, and Maintenance. This means it not only evaluates how effective an intervention is but also how well it is adopted and sustained over time. Its flexibility is another strength; it can be adapted to various geographies and communities, making it accessible even in rural or resource-limited settings. This flexibility is particularly useful in participatory research, where it's important for community members and practitioners to easily understand and apply the framework. However, one notable weakness is that many of the RE-AIM frameworks and indicators have primarily been tested and applied in Western settings. There is limited literature on its use in low- and middle-income countries (LMICs). This gap presents both a challenge and an opportunity for researchers working in LMICs to explore and advance the application of RE-AIM in these contexts.</p>

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	<p>impact of high heat stress and erratic rainfall on the physical and mental health of vulnerable communities in regions such as South Asia and Sub-Saharan Africa.</p>	<p>a more comprehensive analysis of how various factors influence health outcomes. In my own research, I have used the RE-AIM framework extensively. For example, I am currently working on a proposal to address high heat stress in India, which has been particularly severe this year. We are exploring climate adaptation strategies such as technological cooling solutions and health preparedness measures. The RE-AIM framework helps us ensure that these interventions are not only adopted but also sustained and effectively integrated into routine practice, especially in health centres and hospitals.</p>	<p>adaptation technologies. By meticulously developing interventions that engage these social networks, we can enhance the adoption and continued use of these technologies, ultimately leading to positive health outcomes. This success story underscores the importance of integrating social networks into climate adaptation strategies to achieve meaningful and lasting impact.</p>	
7	<p>My entire career has focused on sustainable development, particularly in relation to cities and climate change. For eight years, I worked in this area at SEA 40, and my PhD concentrated on the processes and practices of sustainable cities. I led research and</p>	<p>Regarding health impacts from adaptation initiatives, one notable example is New York City's green swales project. New York implemented green infrastructure to manage stormwater and reduce flash flooding, which also contributed to increased green space in the city. While the primary metrics focused on temperature and runoff, rather than direct health outcomes, the project has implications for health due to improved water quality and reduced urban heat. Another example is a project in India, which had a successful heat early warning system and resilience plan. Athens has also made</p>	<p>We generally haven't used parameters or indicators in the way you're describing. We've been focused on other aspects and haven't had the opportunity to explore this approach fully.</p>	<p>One of the strengths of the C-40 guidance for cities is that it was developed with direct input from three cities, tested, and then shared with others. This close collaboration helped address the complexities and data gaps inherent in such projects. However, a challenge has been the difficulty in establishing baseline strengths due to these data and information gaps.</p> <p>As a funder, it is crucial to define and promote effective evaluation practices. Significant gap in post-implementation evidence... establish best practices for evaluating interventions and ensure that</p>

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	<p>knowledge management efforts, with a significant portion dedicated to examining the multiple benefits of climate action. Health was a major focus in this research, both because of its importance and because, as we explored the various benefits of climate action, it became clear that health was a key component.</p>	<p>significant strides in heat resilience, particularly after a severe heatwave in 2010.</p> <p>Familiar with some common indicators used in related fields. These include measures like premature mortality, morbidity, hospital visits, and productivity losses. These indicators are often used in modelling and epidemiological assessments to understand the impact of interventions.</p>		<p>these practices are normalized and adopted widely.</p> <p>It's not just about funding evaluations but also about defining what constitutes best practice, piloting these approaches, and scaling them. Aim to work with other funders and governments to ensure that evaluations are effectively integrated into funding strategies.</p>
8	<p>Formal training in environmental health and involved in climate and health research, particularly focusing on several key drivers: heat, air pollution, water pollution, flooding, and drought. These factors directly impact food safety and security, which</p>	<p>NIEHS translational research framework (lead author Kristie Pettibone): expands on earlier biomedical models to develop a more complete and unified approach to environmental health. It characterises translational research as a series of concentric rings and nodes, with "translation" moving between rings or across nodes within a ring.</p> <p>Community-engaged framework for implementation science (lead author Gila Neeta).</p>	<p>Working on a dual adaptation case study in the Caribbean, looking at smart facilities, specifically hospital facilities, pre- and post-disaster. Four data sources: smart facilities, disaster events (like hurricanes), and continuity of care for non-communicable diseases (NCDs) like diabetes.</p> <p>Exploring the influencing factors of risk and benefits in an adaptation framework. This involves</p>	<p><b>Strengths:</b></p> <p>The community engagement framework emphasizes the importance of involving community leaders and members in the design and implementation of interventions, ensures interventions are culturally relevant and address the real concerns of the community, leading to better acceptance and sustainability.</p> <p>Eg. tribal nations in Louisiana, where digital storytelling was chosen to address cultural disruption, demonstrates how tailoring</p>

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	<p>are major concerns as the global population grows.</p>	<p>National Academies of Sciences, Engineering, and Medicine publication on seafood safety addresses how much seafood is needed, the related risks, and the challenges concerning seafood consumption for individuals aged 0 to 18 and pregnant women. Chapter 7, which I developed, focuses on evaluating and rationalizing a risk-benefit analysis.</p>	<p>examining how climate data, or the lack thereof, impacts food insecurity and food safety. For example, frequent floods and droughts reduce crop yields, leading to food insecurity. This often prompts less literate farmers to use more pesticides, raising food safety concerns due to pesticide residues.</p>	<p>interventions to community concerns can enhance effectiveness.</p> <p>The interconnectedness approach to frameworks such as the translational research framework accounts for the interconnectedness of health, environment, food security and provides a comprehensive view of how different elements influence each other. This holistic approach is crucial for understanding complex systems and designing effective interventions.</p> <p>Utilizing risk-benefit analysis (seafood consumption, Chap 7 of the frameworks helps in evaluating the trade-offs associated with various interventions. This method provides a structured way to assess both the potential benefits and risks, facilitating informed decision-making.</p> <p><b>Weaknesses:</b></p> <p>Many frameworks struggle with obtaining current and granular data. This limits the ability to accurately assess and respond to specific needs at a more detailed level (Eg. getting updated data on diabetes treatment continuity and mortality highlights the challenge of data granularity in evaluating health interventions.)</p> <p>The fragmentation of funding and efforts across different sectors and levels can lead to inefficiencies and gaps in coverage.</p>

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				<p>Additionally, the complexity of interconnected factors can make it challenging to design and implement effective, comprehensive solutions.</p> <p>Ensuring the sustainability of interventions and adapting frameworks to evolving conditions can be difficult. Interventions may need to be adjusted over time, and frameworks must remain flexible to accommodate new data and changing circumstances (shifting focus from bioterrorism specialists to community resilience officers shows how workforce needs and funding priorities can change).</p>
9	Science and policy of sustainability, especially climate change, and global health issues including public health research, science assessment, capacity development and policy advice	<p>Very familiar with the challenges of assessing effectiveness of health outcome related interventions, better at systems outcomes, e.g., increase capacity and training.</p> <p>There is no toolkit for measuring effectiveness of health interventions and their effectiveness.</p> <p>The GEF Monitoring and Evaluation framework has lots of indicators.</p>	<p>Typically researchers do not incorporate effectiveness assessment frameworks in their projects.</p> <p>There is not enough funding for proper monitoring and evaluation.</p> <p>Typical indicators like under 5 mortality are well applied, similar to improved life expectancy.</p>	<p>Indicators related to determinants of health hold promise, e.g., education attainment, education rate, access to energy.</p> <p>These help emphasise changes in equity, but it needs to be considered from conceptualisation of the project including all community and stakeholder partners.</p>
10	Public health, climate resilience, policy development and evaluation,	The Centre for Research on Environment, Society and Health (CRESH) has impact indicators <a href="https://cresh.org.uk/tag/impact/">https://cresh.org.uk/tag/impact/</a>	<p>Difficult to apply generic indicators to specific projects / interventions</p> <p>None have focused on health outcomes / systems</p>	<p>Consider cost versus effectiveness</p> <p>Also sensitivity versus vulnerability</p> <p>Patient satisfaction or comfort based on perceptions</p> <p>Keep expectations in check</p>

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	monitoring and evaluation			